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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/736,945

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James R. Geschwindt

C-2950

5524

M. P. Williams
210 Main Street
Manchester, CT 06040

7590

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EXAMINER

LAIOS, MARIA J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

02/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/736,945	Applicant(s) GESCHWINDT ET AL.	
	Examiner MARIA J. LAIOS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 3,5-8 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 9, 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed 24 September 2008. Claims 1 and 13 have been amended. Claims 3, 5-8 and 10 have been withdrawn from consideration. Claims 1, 2, 4, 9, 11-14 are finally rejected for reasons necessitated by applicant's amendment and for reasons of record.

Response to Amendment

2. The Declaration from Robin J. Guthrie under 37 CFR 1.132 filed 24 September 2008 is sufficient to overcome the rejection of claim 2 based upon the rejection under 35 U.S.C. 102(b). The fuel does not have a manifold that is in fluid communication with all of the cells. Since a manifold has been defined as being downstream of the baffle in claim 2 whereas in Ketchman et al. the fuel flows from pipe 36 through the perforated pipe and into a chamber which then leads to the individual cells.

3. The Declaration from Gregory Reynolds under 37 CFR 1.132 filed 24 September 2008 is sufficient to overcome the rejection of claims 1 and 14 under 35 U.S.C. 112 second paragraph because applicant has defined down stream to mean in the radial direction of the fuel.

4. The Declaration from Gregory Reynolds under 37 CFR 1.132 filed 24 September 2008 is sufficient to overcome the rejection of claim 2 based upon the rejection under 35

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U.S.C. 102(b) by Ketchman et al as set forth in the last Office action because as is previously discussed above.

Claim Rejections - 35 USC § 102

5. The claim rejections under 35 U.S.C. 102(b) as anticipated by Ketchman et al. are withdrawn for claims 2, 4, 9 and 12.

Claim Rejections - 35 USC § 103

6. The claim rejection under 35 U.S.C. 103(a) and Sawyer on claims 1, 13 and 14 are withdrawn because the claim has been amended and the definition of downstream has been entered to mean radially out of the pipe.

Claim Rejections - 35 USC § 102

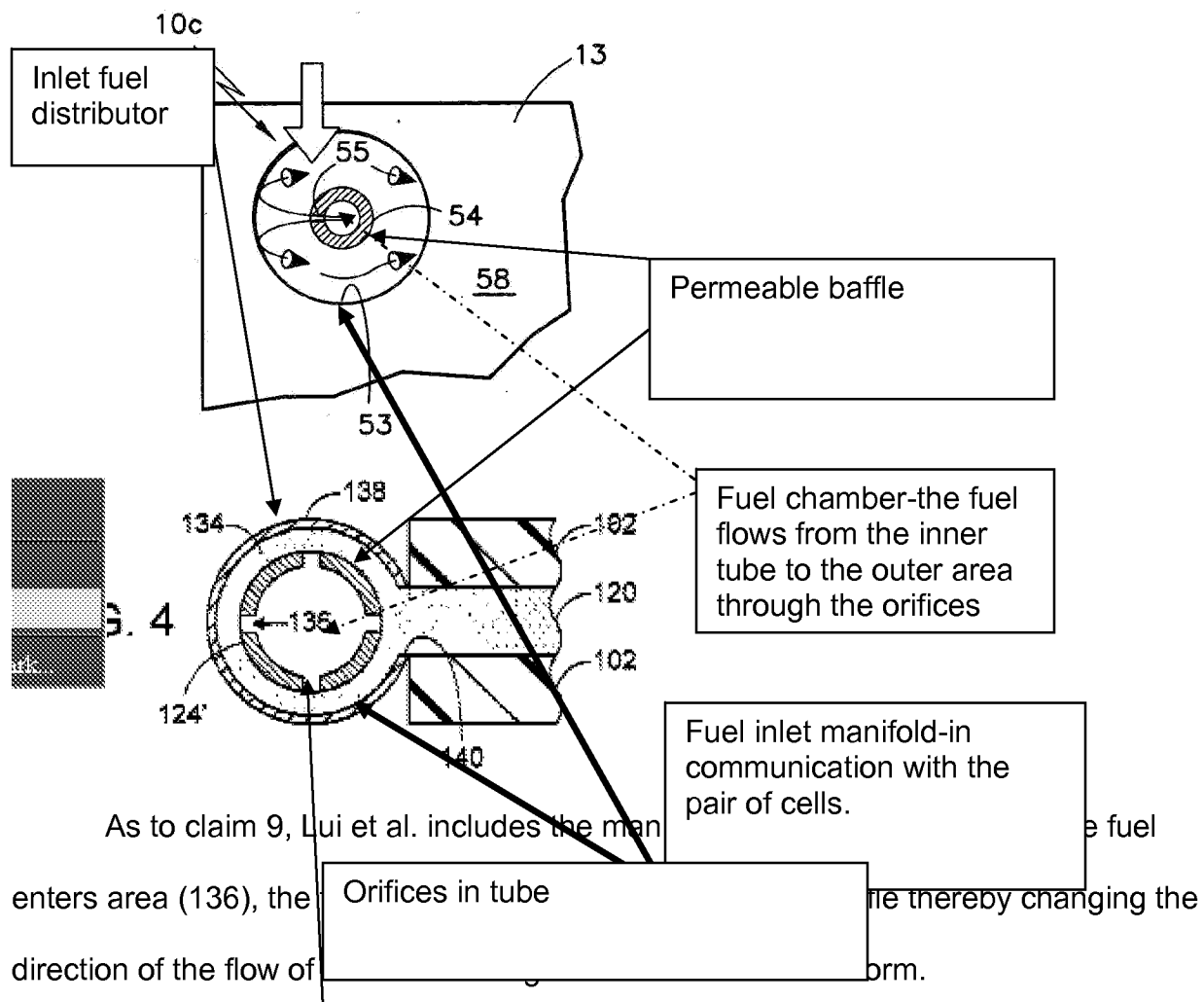
7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 2, 4, 9 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Lui et al. (US 2004/0058220 A1).

As to claims 2 and 4, Lui et al. discloses a fuel cell system comprising a pair of cells (Paragraph 26). Each of the cells will inherently have a fuel flow field and a fuel inlet and a fuel supply pipe. (See Figures below for a comparison match between applicants figure of the elected specie and Lui et al. figure)



As to claim 12, the fuel inlet distributor comprises a first internal manifold receiving fuel from the fuel supply pipe (area 136) a second internal fuel manifold (area

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134) providing fuel to the fuel inlets and receiving fuel through the permeable baffle from the first internal fuel manifold (figure above).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 2004/0058220 A1).

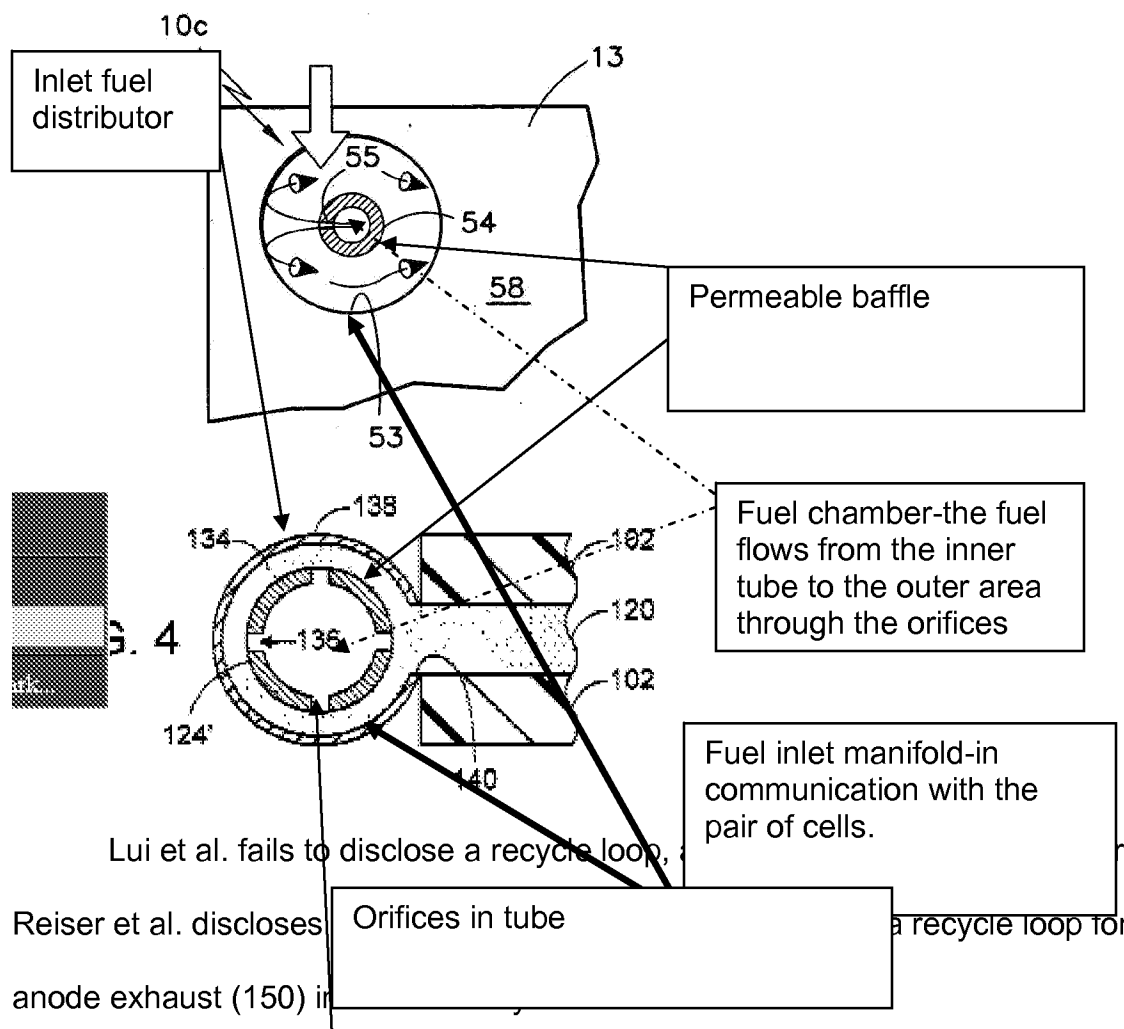
Lui et al. discloses the fuel cell as discussed above and incorporated herein but fails to taper the permeable baffle, to have the inlet end have a larger opening than the outlet end, in order to increase the pressure of the fuel as it travels in the tube it is well known in the art to narrow the tube a nozzle is formed which will increase the pressure at the outlet compared to the pressure at the inlet.

It would have been obvious to one of ordinary skill at the time of the invention to taper the baffle in this manner so as to increase the pressure of the fuel toward the outlet where the amount of fuel is less than at the beginning thus insuring an equalized amount of fuel entering the fuel distributor.

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11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 2004/0058220 A1 in view of Reiser et al. (US 2002/0076582 A1).

As to claim 14, Lui et al. disclose a plurality of fuel cells, each of the fuel cells have at least one fuel flow field and a fuel inlet and fuel outlet. Each of the cells will inherently have a fuel flow field and a fuel inlet and a fuel supply pipe. (See Figures below for a comparison match between applicants figure of the elected specie and Lui et al. figure)

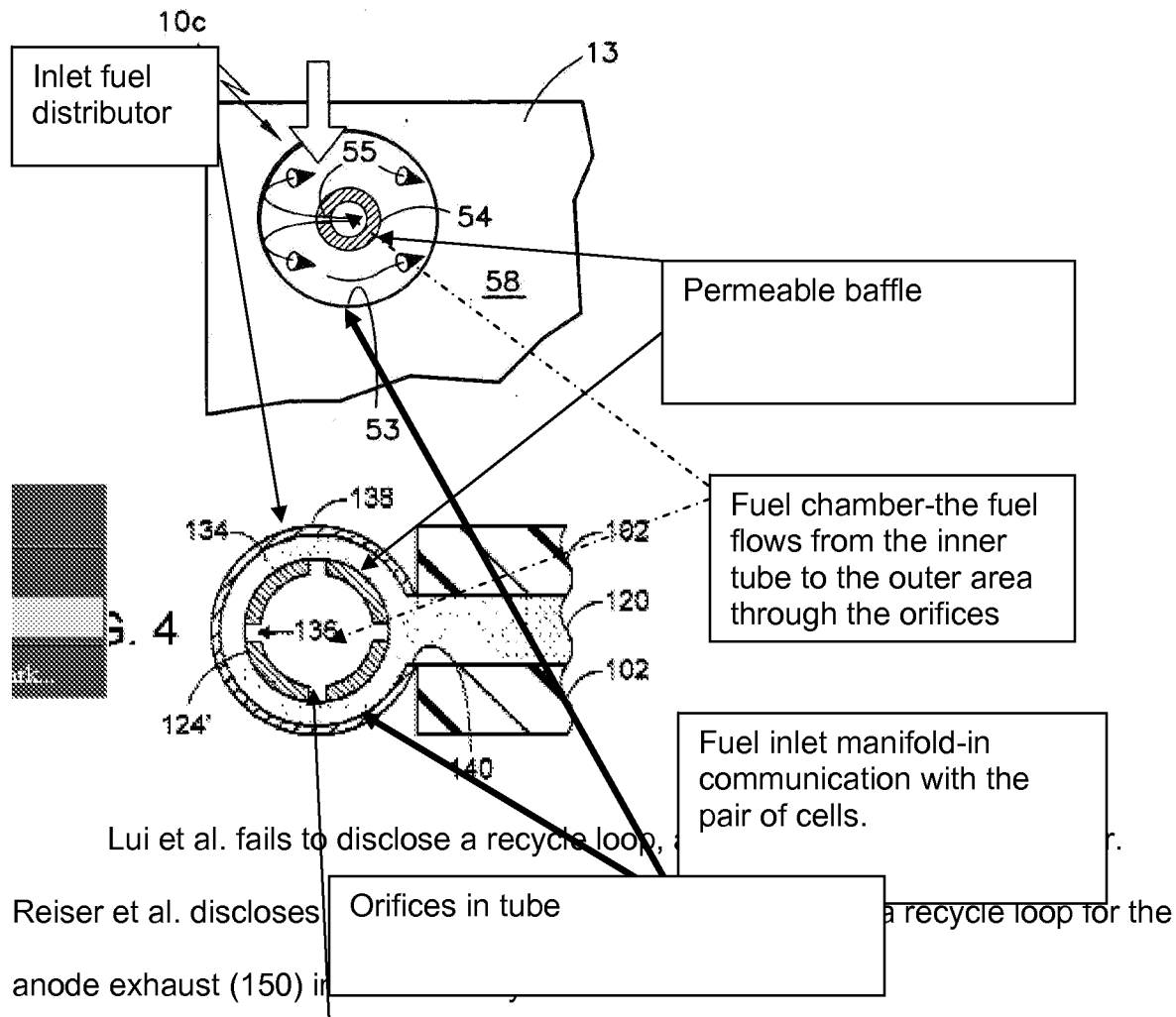


However Lui modified by Reiser fail to disclose the recycled fuel is provided down stream of the permeable baffle.

It would have been obvious to one of ordinary skill in the art at the time of the invention to replenish the fuel in the system because it would save the fuel from being expended. Furthermore the placement of the fuel downstream of the baffle would allow the recycled fuel to enter the cells directly and would further mix with the fuel entering from the orifices thus homogenizing the fuel entering the cells.

12. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lui et al. (US 2004/0058220 A1 in view of Reiser et al. (US 2002/0076582 A1) and LaPierre et al. (US 6,348,278.

As to claim 1 and 13, Lui et al. disclose a plurality of fuel cells, each of the fuel cells have at least one fuel flow field and a fuel inlet and fuel outlet. Each of the cells will inherently have a fuel flow field and a fuel inlet and a fuel supply pipe. (See Figures below for a comparison match between applicants figure of the elected specie and Lui et al. figure)



However Lui modified by Reiser fail to disclose the recycled fuel is provided down stream of the permeable baffle.

It would have been obvious to one of ordinary skill in the art at the time of the invention to replenish the fuel in the system because it would save the fuel from being expended. Furthermore the placement of the fuel downstream of the baffle would allow the recycled fuel to enter the cells directly and would further mix with the fuel entering from the orifices thus homogenizing the fuel entering the cells.

Reiser further discloses a valve (170) which is in fluid communication with the cells and is upstream from the manifold inlet. Since the valve is downstream of the exiting gas it will be located a distance from the interconnection of the fuel inlet chamber and the supply pipe. It would have been obvious to one of ordinary skill in the art to include a valve in the recycle system in order to control the amount of fuel being recycled.

Lui et al. modified by Reiser fail to disclose a controller controlling the valve. LaPierre et al. disclose a controller (150) for controlling the valves during start up.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the controller of LaPierre et al. to the system of Lui modified by Reiser because the controller can adjust the valve to control the flow rate of the fuel (col. 17 lines 57- col. 18 line 5).

Response to Arguments

13. Applicant's arguments in combination with declarations, see page 7 of remarks, filed 24 September 2008, with respect to the rejection(s) of claim(s) 2 under 35 U.S.C. 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found art.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA J. LAIOS whose telephone number is (571)272-9808. The examiner can normally be reached on Monday - Thursday 10 am -7 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. J. L./
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795